

Towards a continuum of international education



Towards a continuum of international education



**Primary Years Programme, Middle Years Programme
and Diploma Programme
Towards a continuum of international education**

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Contents

Introduction	1
The three IB programmes	2
The philosophy of the continuum of international education	2
Implementing the continuum	6
Programme structures	8
The Primary Years Programme (PYP)	9
The Middle Years Programme (MYP)	9
The Diploma Programme (DP)	10
Teaching and learning	12
Introduction	12
The purpose of teaching and learning: Teaching for understanding	13
Approaches to teaching and learning	14
The learning environment: Active learning in a supportive school culture	16
Summary	17
Assessment	18
The principles of IB assessment	18
Developing an assessment policy	20
Leading the development of the continuum: Pedagogical leadership	22
What constitutes effective, sustainable leadership?	22
The pedagogical leadership team	22
Supporting ongoing professional development	24
The language continuum	25
Learning in a language other than a mother tongue in IB programmes	25
Developing a school language policy	26
Special educational needs	28
Introduction	28
Special educational needs in IB programmes	28

Action, community and service, and CAS	33
Action in the PYP	33
Community and service in the MYP	34
Creativity, action, service in the DP	35
The culminating experience	37
The PYP exhibition	37
The MYP personal project	37
The DP extended essay	38
Opportunities for celebration	38
Programme evaluation	39
The self-study (PYP, MYP and DP)	39
The school visit (PYP and MYP)	39
The evaluation report (PYP, MYP and DP)	40
Bibliography	41

Introduction

This document has been produced by the International Baccalaureate (IB). It is intended for:

- candidate schools
- IB World Schools that are newly authorized to offer one of the three IB programmes
- experienced IB World Schools that are implementing or planning to implement more than one IB programme.

It summarizes the common elements and the differences between the Primary Years Programme (PYP), the Middle Years Programme (MYP) and the Diploma Programme (DP) and provides some practical guidance as to how schools can implement the IB continuum of international education effectively in order to develop a coherent, meaningful educational pathway for students.

This document should be read in conjunction with the following IB documents.

PYP	<i>Making the PYP happen: A curriculum framework for international primary education</i> <i>Making the PYP happen: Pedagogical leadership in a PYP school</i>
MYP	<i>MYP: From principles into practice</i> <i>Interdisciplinary teaching: A guide for schools</i> (available from 2009)
DP	<i>Theory of knowledge guide</i> <i>Creativity, action, service guide</i> <i>Extended essay guide</i> <i>Diploma Programme assessment: Principles and practice</i> <i>Handbook of procedures for the Diploma Programme</i> <i>Candidates with special assessment needs</i>
General	<i>IB learner profile booklet</i> <i>Programme standards and practices</i> <i>Learning in a language other than mother tongue in IB programmes</i> <i>Guidelines for developing a school language policy</i> <i>Guide to programme evaluation</i>

The three IB programmes

The International Baccalaureate (IB) offers three programmes of international education:

- the Diploma Programme (DP)—introduced in 1969
- the Middle Years Programme (MYP)—introduced in 1994
- the Primary Years Programme (PYP)—introduced in 1997.

These programmes provide the opportunity for schools to offer a continuous international educational experience from early childhood through to school graduation.

While the IB now offers a sequence of three programmes, two fundamental principles need to be supported.

- Each programme should be self-contained, since there is no requirement for schools to offer more than one programme.
- Programmes should form a coherent and meaningful sequence where schools offer all three programmes or any sequence of two.

Teachers, students and parents will recognize a common educational framework—a consistent philosophy about teaching and learning that focuses on the development of the whole child, and an overarching concept of how to develop international-mindedness.

Each programme promotes the education of the whole person, emphasizing intellectual, personal, emotional and social growth, involving the traditions of learning in languages, humanities, sciences, mathematics and the arts. While the three programmes have grown from a western humanist tradition, the influence of non-western cultures on all three programmes is becoming increasingly important.

The links between the three programmes, which offer a continuum of international education, become a reality when the programmes are implemented by dedicated administrators and teachers in IB World Schools. While the programmes have common elements, the effectiveness of the implementation of a sequence of two or three programmes depends ultimately on a commitment by the school to building a continuum and maintaining a clear focus on teaching and learning. This requires continuous, mutual cooperation and collaboration between administrators and teachers at all levels.

What is it then that ensures the consistency and the broad base of the three programmes? What opportunities and insights does the sequence provide for developing a template for international education, spanning the formal years of schooling?

The philosophy of the continuum of international education

The driving force behind the PYP, MYP and the DP is a deeply held philosophy about the nature of international education expressed in the mission statement of the IB and in the IB learner profile.

The mission statement expresses the IB's overall purpose in promoting and developing programmes of international education.

The IB mission statement

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

In IB programmes, the attempt to define international-mindedness in increasingly clear terms, and the struggle to move closer to that ideal in practice, are central to the mission of IB World Schools. Given the variety of IB World Schools, and the complexity of the concept of international-mindedness, the IB has focused on the kind of student we hope will graduate from an IB World School, the kind of student who, in the struggle to establish a personal set of values and a code of ethics, will be laying the foundation upon which international-mindedness will develop and flourish. The attributes of such a learner are listed in the IB learner profile. The IB learner profile is the mission statement in action; it is central to the IB definition of what it means to be internationally minded, and it directs schools to focus on learning. IB World Schools should be proud to send out into the world students who exemplify the attributes expressed in this profile.

The IB learner profile is based on values that are the embodiment of what the organization believes about international education. The attributes described in the learner profile are appropriate to and achievable by all IB students from the ages of 3 to 19. The teacher needs to interpret these attributes in a manner appropriate to the age and development of the student, always bearing in mind that part of the adaptability and versatility of IB programmes lies in what these attributes may look like from one school culture to another.

In IB programmes it is both recognized and appreciated that students come from various backgrounds and bring with them a wealth of experience. All teachers have a responsibility to help students develop as lifelong learners in the context of the learner profile.

The mission statement and the learner profile are at the heart of the IB programme continuum.

The IB learner profile

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

IB learners strive to be:

Inquirers	They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.
Knowledgeable	They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.
Thinkers	They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.
Communicators	They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.
Principled	They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.
Open-minded	They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.
Caring	They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.
Risk-takers	They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.
Balanced	They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.
Reflective	They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

In addition to the IB mission statement and IB learner profile, schools implementing the continuum must refer closely to the IB document *Programme standards and practices*. This document provides a set of criteria against which both the IB World School and the IB Organization can measure success in the implementation of the PYP, MYP and DP.

The school must make a commitment to work towards meeting all the standards and practices in the document. These form the basis of a self-study, which schools undertake as part of the programme evaluation process (see “Programme evaluation”). For each school, the implementation of an IB programme and the IB continuum of international education is a journey; the IB recognizes that the school will meet these standards and practices to varying degrees along the way.

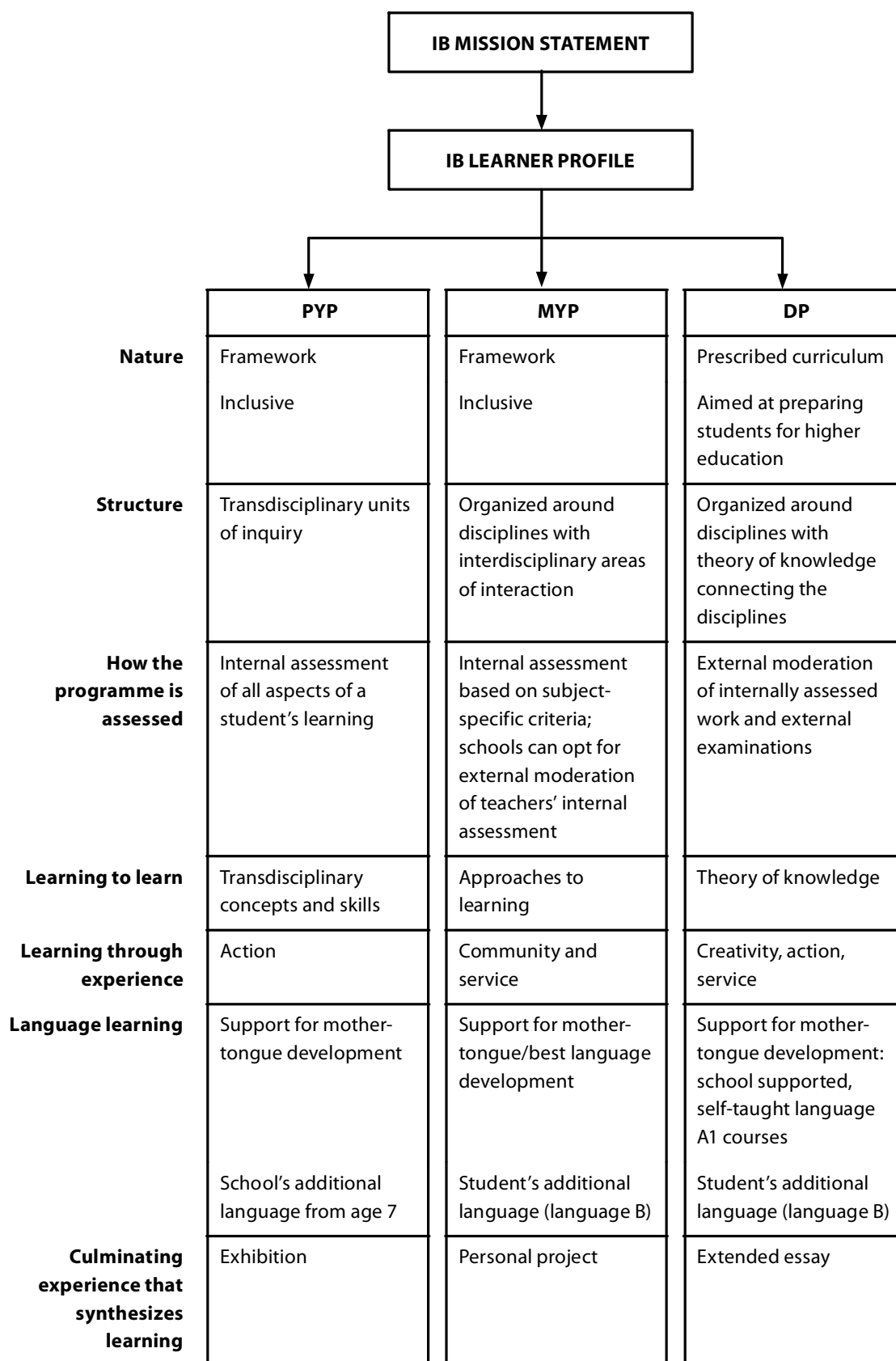


Figure 1:
The IB continuum of international education

Implementing the continuum

The strength of the IB programmes is that they all grew from common beliefs about the importance and nature of international education, and out of the work of practising teachers and administrators in schools. The IB has not changed the original concept of the programmes in any way, although all three have developed significantly since their inception, and will continue to do so. The continuum, like the growth of a student, is not a smooth trajectory—moving from one programme to the next may necessitate a few leaps—but there is a level of coherence that gives it a recognizable identity and great value. Implementing two or three IB programmes requires teachers and school administrators to work together on the basis of a common philosophy, using the same language to talk about teaching and learning and the development of students. This, in turn, means that the experience of the student will be more coherent and meaningful, and learning will be significantly enriched.

The PYP and MYP are curriculum frameworks, whereas the DP is a prescribed curriculum. There are important reasons for this difference. Each programme is designed to meet the developmental needs of students of particular ages and at key stages of identity formation. Schools need room to shape the curriculum according to local requirements and to their cultural realities and priorities. The DP has to provide students with the qualifications to gain entry to universities anywhere in the world, hence the increased level of prescription in the programme.

The PYP and MYP are coherent and comprehensive programmes that allow schools, through collaborative teams of teachers, to develop their own content—content that is relevant to the cultural context of the school. The framework offers some degree of flexibility, allowing schools to incorporate local or national curriculum requirements if necessary. Student learning is assessed internally by teachers and, in the MYP, teachers' assessment can be externally moderated by the IB in order to meet recognized global standards. The DP is, equally, a coherent and comprehensive programme but the curriculum and assessment procedures are prescribed in more detail in order to meet the requirements for university entrance around the world. Student learning in the DP is assessed largely by external examinations set by the IB.

The PYP and MYP are inclusive programmes with the flexibility to meet the needs of all students. The DP is not exclusive but, because it is aimed at providing students with all they need to be successful in higher education, the full IB Diploma Programme may not be the best fit for all students.

The PYP and MYP use different structures and approaches from the DP in order to meet the intellectual and developmental needs of students in the relevant age groups, but they prepare students both intellectually and personally to be successful in the DP. While there is a common, strong philosophy underpinning the three programmes, each programme has distinct characteristics that are appropriate to the age level for which it was designed. For a school wanting to implement two or more of the programmes, the challenge is to recognize and value the differences while working to help teachers and students bridge the transition points. A comparison can be made with the development of the students themselves. There are enormous differences between a 7 year old, a 13 year old and an 18 year old, intellectually, emotionally and socially, as well as physically. They do not want to be treated in the same way, nor would the same response be effective, but they need the help of their parents and teachers to make the transition from one phase of their lives to the next. Sometimes that transition is a gradual progression; sometimes it requires the student to make a leap.

As the number of two- and three-programme schools grows and we learn from the experience of school leaders and teachers in those schools, so the programmes will slowly be influenced by each other. They will adapt and change because it makes educational sense to do so and because the adaptation will enhance student learning and the quality of teaching.

Implementing the IB continuum of international education means bringing about institutional change in order to improve teaching and learning and to strengthen the school community and culture. An IB World School that implements the continuum is committed to reflection, improving practice and to long-term sustained change. It is expected that such schools will be outward looking, as well as forward thinking, and will be making connections within the family of IB World Schools and making contributions both to the IB community and to their local community.

One of the great advantages that the IB programmes have recognized and benefited from since their inception has been the “creative professionalism” (Hargreaves 1998) of teachers and their willingness to experiment with ideas and practices. The PYP and MYP are deliberately constructed to allow teachers the freedom to innovate and contextualize learning in their schools. IB programmes are based on a high level of trust in teacher professionalism. Innovative and committed teachers of IB programmes from many different cultures have also played a very significant role in the development of each programme. Continuing to find new ways to support schools and teachers around the world, drawing on the rich variety of their educational traditions and harnessing their professional knowledge, is the highest priority for the IB. The role of school practitioners ensures that the links between the three programmes benefit from the extensive practical, diverse and current experience that only they are able to provide. Such a role is pivotal in the IB’s model for the development and implementation of each programme and for the continuum of international education; it is based on a critical relationship between the programmes, the teachers and the schools (Walker 2000).

Programme structures

While there are significant differences in the structures of the PYP, MYP and DP, there are also key principles that connect them.

- In all three programmes, the student is at the centre of the curriculum, as expressed through the IB learner profile.
- While each academic discipline has its own methodology, body of knowledge and nuances, students learn better when meaningful connections are made between the disciplines.

There is a gradual transition from the transdisciplinary approach of the PYP to specifically identified disciplines in the MYP and DP, supported by approaches that foster connections.

PYP	MYP	DP
Programme of inquiry, including scope and sequence documents for six subject areas	Eight subject areas with aims and objectives and assessment criteria	Six groups of subjects with detailed syllabus and assessment guides
Teaching through six transdisciplinary themes	Teaching through eight subject areas connected through five areas of interaction	Teaching through six subject groups connected by theory of knowledge
Units of inquiry within each transdisciplinary theme, incorporating the learning of language, mathematics, social studies, science, the arts and personal, social and physical education	Units of work in each subject area, with some interdisciplinary units of work, focused on the areas of interaction	Course outlines for each subject including theory of knowledge, extended essay and creativity, action, service
	Language A Language B Humanities Sciences Mathematics Arts Physical education Technology	Language A1 Second language Individuals and societies Experimental sciences Mathematics and computer science The arts
Prescribed planner to support inquiry	Recommended planner for units of work	

Figure 2:
Programme structures

The Primary Years Programme (PYP)

In the PYP the importance of the traditional subject areas is acknowledged: language, mathematics, social studies, science, the arts and personal, social and physical education are specified as components of the PYP curriculum model. Overall expectations for each subject, within each age range, are specified in detailed scope and sequence documents, which are available to schools as exemplar material.

It is particularly important for students in the primary years of education to acquire skills in context, and to explore content that is relevant to them and that transcends the boundaries of the traditional subjects. The PYP curriculum is centred on **six transdisciplinary themes** based around shared human commonalities that are considered essential in the context of international education. These themes are supported by knowledge, concepts and skills from the traditional subject areas but utilize them in ways that transcend the confines of these subjects, thereby contributing to the **transdisciplinary model of teaching and learning**.

PYP transdisciplinary themes

- Who we are
- Where we are in place and time
- How we express ourselves
- How the world works
- How we organize ourselves
- Sharing the planet

Students inquire into, and learn about, these globally significant issues in the context of **units of inquiry**, each of which addresses a **central idea** relevant to a particular transdisciplinary theme. These units collectively constitute the school's **programme of inquiry**. Teachers in IB World Schools that offer the PYP work collaboratively to develop a transdisciplinary programme of inquiry designed to meet the school's needs. Schools explore the possibilities for links between the units taught at each year level, and also across the different age ranges, so that the programme of inquiry is articulated both vertically and horizontally.

The Middle Years Programme (MYP)

The MYP curriculum has **eight subject areas** for which aims and objectives are prescribed. All students study all of the subject areas throughout the five years of the programme. The eight subject areas are connected through the **five areas of interaction** that transcend the boundaries of the traditional disciplines and are focused on human commonalities, in a similar way to the transdisciplinary themes of the PYP.

The objectives of each of the MYP subjects are based on the development of a balance of knowledge, skills and attitudes, broad enough to allow a variety of teaching and learning approaches. The precise choice and organization of content is left to schools in order to preserve flexibility. Subject content is not specified, although in some subjects a framework of concepts or topics is prescribed for all students to address over the five years. Such prescription is kept to a minimum and schools are asked to expand their scope of topics and depth of treatment according to individual needs and preferences.

It is each school's responsibility to collaboratively produce **units of work** for each subject that will enable students to reach the final objectives of each subject. Unit planning should begin with the integration of the significant concepts to be taught with the context or area of interaction, giving rise to a unit question.

The areas of interaction give the MYP its distinctive core. The areas are common to all disciplines and are incorporated into the MYP so that students will become increasingly aware of the connections between

subject content and the real world, rather than considering subjects as isolated areas unrelated to each other and to the world. The five areas of interaction have no clear boundaries, but merge to form a context for learning that contributes to the student's experience of the curriculum.

MYP areas of interaction

Approaches to learning

Community and service

Human ingenuity (previously *homo faber*)

Environments

Health and social education

Through the areas of interaction and the subject groups, the MYP presents knowledge as an integrated whole, emphasizing the acquisition of skills and self-awareness, and the development of personal values. As a result, students are expected to develop an awareness of broader, more complex global issues.

Interdisciplinary learning in the MYP is the process by which students come to understand bodies of knowledge and modes of thinking from two or more disciplines or subject groups and integrate them to create a new understanding. It is a central feature of the MYP curriculum and should be visible in teachers' units of work, student work and assessment criteria.

Interdisciplinary learning seeks to promote interdisciplinary understanding. Students demonstrate interdisciplinary understanding of a particular topic when they can bring together concepts, methods or forms of communication from two or more disciplines or established areas of expertise to explain a phenomenon, solve a problem, create a product or raise a new question in ways that would have been unlikely through single disciplinary means.

As with the PYP, schools must plan collaboratively, both vertically and horizontally, through the five years of the MYP to explore the links between the discipline-based and interdisciplinary units taught at each grade level and across the grades.

The Diploma Programme (DP)

The DP is structured around the shape of a hexagon, with **six subject groups** or academic areas, surrounding a core. Students select six subjects, one from each academic area, and also study or participate in the three areas of the core.

DP core areas

Extended essay

Theory of knowledge (TOK)

Creativity, action, service (CAS)

For each of the subjects in the hexagon the syllabus and assessment model are prescribed in great detail. Teachers have some choice of options in most of the subjects but that choice is limited compared to the flexibility available to schools and teachers in the PYP and MYP. The reason for this is that the DP is a pre-university course of studies leading to examinations; it is designed as a comprehensive two-year curriculum that allows its graduates to fulfill the requirements of various national education systems.

While providing students with the necessary skills and qualifications to enter a range of higher education institutions around the world, the DP also makes provision for students to increase their awareness and understanding of the connections between the academic disciplines they are engaged in every day and the real world. A key aim of TOK is to encourage students to reflect on their experiences as learners in everyday life and to make connections between academic disciplines and between thoughts, feelings and actions.

TOK guiding questions are incorporated into every DP subject guide, and subject teachers are expected to make connections with TOK issues through their daily teaching.

The DP offers two courses that combine academic disciplines: text and performance (groups 1 and 6, currently in the pilot stage) and environmental systems and societies (groups 3 and 4). It is also piloting an extended essay in world studies as an alternative to a topic chosen from the approved list of DP subjects. The world studies extended essay will allow students to focus on a global issue while drawing knowledge and methodology from more than one academic discipline. The IB will continue to explore ways of offering DP students more opportunities to study in an interdisciplinary way in order to allow them to explore multidisciplinary global issues and to enhance their learning in general.

Teaching and learning

[The purpose of education is] to develop to their fullest potential the powers of each individual to understand, to modify and to enjoy his or her environment, both inner and outer, in its physical, social, moral, aesthetic and spiritual aspects.

Alec Peterson (1987, p 33)

The responsibility of educators is no longer just to prepare good mathematicians, good biologists or good historians. The mission of schools is to prepare young people—the decision makers of tomorrow—to live in a complex multicultural society undergoing a rapid process of change and opening up a new world order. Of course, the cognitive component of an educational system is fundamental for the acquisition of intellectual and professional skills. Even more important is the acquisition of attitudes in the learning process in a context of cultural exchanges.

Gérard Renaud, (1991, p 8)

Introduction

This section is a brief statement of the key principles of teaching and learning that underpin the three IB programmes. The pedagogical approaches described here are based on a constructivist understanding of how children learn. Constructivism is a theory of cognition, now widely used and accepted, that asserts that knowledge is not passively learned but actively built and refers to approaches that recognize the importance of engaging and challenging existing mental models in learners in order to improve understanding and performance.

In the light of a constructivist understanding of teaching and learning, IB programmes are designed to stimulate young people to be intellectually curious and equip them with the knowledge, conceptual understanding, skills, reflective practices and attitudes needed to become autonomous lifelong learners. The IB programme continuum recognizes that learning is a process not a product. Students of all ages come to school with their own beliefs, knowledge and experience about how the world works. These mental constructs are revisited and revised in the light of new experiences and learning. The process of learning is, therefore, a developmental path of constructing, testing and revising mental models of how the world works and it is this process that enables each student to make meaning of their lives and the world around them. Furthermore, students must understand how they learn, their own preferred styles, strengths and limitations, if they are to become autonomous lifelong learners. Above all learning for IB students should be rigorous, engaging, challenging and should equip students for life in the 21st century.

In implementing IB programmes, teachers are expected to use a wide range of teaching strategies and to teach in a way that supports student learning. PYP classrooms based on transdisciplinary units of inquiry will look very different from DP classrooms centred on the academic disciplines. The principles and approaches outlined here are, however, equally applicable to all three programmes.

Teaching and learning in IB programmes must be viewed in the context of the IB learner profile. The profile lists 10 attributes of IB learners. Some of these—inquirers, knowledgeable, thinkers, communicators and reflective—imply the development of cognitive competencies. The other attributes—principled, open-minded, caring, balanced and risk-takers—emphasize dispositions and attitudes. Teaching and learning in

all three programmes recognizes that cognitive skills and competencies are embedded in dispositions and attitudes. Learning should occur in meaningful real-world contexts and the voice of the learner must be emphasized. This requires that IB teachers model themselves on the learner profile, consider themselves lifelong learners and be able and willing to support all their students on the journey to becoming autonomous learners.

The purpose of teaching and learning: Teaching for understanding

The central purpose of teaching and learning is to help students develop and extend the concepts they use to understand the world, solve problems and communicate. Knowledge consists of bodies of information. A new concept is developed when meaningful connections are made between bodies of knowledge and other existing concepts, and the making of those connections leads to a deeper understanding of the world and an improved ability to solve problems. Humans are by their nature makers of meaning. The challenge of excellent teaching is to help students achieve genuine and sophisticated understanding that helps them function effectively and independently in an increasingly complex world.

Central to teaching for understanding is the use of guiding or key questions. The act of framing these open or generative questions causes teachers to focus on the reasons why they are teaching that particular body of information and thus it helps them ensure that the knowledge and skills they are teaching are relevant and meaningful. The use of questions in the PYP to frame the units of inquiry, in the MYP to focus learning through the areas of interaction, and to structure learning in theory of knowledge and the academic disciplines in the DP have all proved to be highly effective in developing conceptual understanding in students of all ages. Enabling students to understand key concepts and develop conceptual thinking requires that IB teachers keep their eyes firmly fixed on the big or central ideas and requires them to take every opportunity to help students make those important connections.

Effective learning for life in the 21st century recognizes that:

- the knowledge base is increasing rapidly, requiring learners to process and evaluate knowledge, not just acquire it
- the world is changing rapidly, requiring learners to anticipate the unknown and adapt to change, not just respond to it
- employment prospects increasingly require an ability to transfer skills and learning
- learning to work and solve problems collaboratively is becoming as important as learning to work individually
- how the brain learns is becoming better understood with implications for teaching and learning that need to be respected
- developing self-confidence in learners, as well as academic competence, is essential if learners are going to be able to function effectively; affective dispositions in addition to cognitive competence are central to learning
- constructive critical thinking is a tool necessary for individual and collective survival; students must learn to be able to distinguish sense from nonsense, propaganda from truth and make their own well-informed judgments.

Approaches to teaching and learning

For the sake of clarity the approaches to teaching and learning are described under three headings:

- learning how to learn
- structured inquiry
- critical thinking.

In reality these categories overlap and describe complementary approaches.

Learning how to learn

Learning how to learn requires that students realistically evaluate and self-regulate their performance.

Effective learners monitor what they are doing and produce effective responses because they are self-aware and have a realistic appreciation of, and control over, their own learning process. They do not simply acquire more skills and knowledge.

Metacognition is a term used to refer to the reflective thinking strategies, attitudes and other competencies used to monitor and control learning. The concept can be further divided into two categories, but both are required for effective practice:

- metacognitive knowledge—knowledge learners have about themselves and how they learn best
- metacognitive performance—the ability to use self-knowledge to improve performance.

In an effective learning environment metacognitive knowledge and performance can be nurtured rather than taught. At a young age all students cannot help but develop metacognitive understanding since “being human” is characterized by self-awareness and the need to learn and make decisions. One central challenge of education is the development of a positive and realistic self-understanding that helps learners to effectively make judgments and solve problems. Nurturing metacognitive knowledge and performance means providing a learning environment and teaching practices that require students to constantly plan, reflect, monitor and check their work and to self-evaluate.

Learners manage their thought processes in different ways. No two learners are identical. Students have individual learning styles, preferred ways of using their abilities. Students’ learning styles can also vary from one learning context to another. This makes it difficult to teach learning or study skills to students out of context or to teach one method as appropriate for all. While students can be taught strategies that might help them with metacognitive tasks they must learn to apply these themselves and be exposed to a number of approaches. Teaching students how they learn best must be an integral part of the curriculum and not considered as a separate task.

Teachers need to model to students the reflective practices they want students to develop, and they should identify their own teaching and learning styles. Approaches to learning and assessment strategies need to be varied to accommodate different styles of learning. Students must understand the aims of individual learning tasks and what constitutes excellent performance. Formative assessment, providing clear feedback to students on areas of relative strength and weakness, can help students better understand how to improve their performance.

Structured inquiry

The IB learner profile states that IB learners strive to be “inquirers”, describing the process as developing natural curiosity together with the skills needed to enable them to become autonomous lifelong learners. Inquiry involves an active engagement with the social and physical environment in an effort to make sense of the world, and consequent reflection on the connections between the experiences encountered and

the information gathered. Inquiry involves synthesis, analysis and manipulation of knowledge. Structured inquiry describes the strategies and supports that teachers use to facilitate student inquiry that is purposeful and productive.

Depending on the context, students are expected to explore significant issues by formulating their own questions or seeking the answers to prescribed ones. All three programmes expect students, in an age-appropriate way, to be able to:

- design their own inquiries
- assess the various means available to support their inquiries
- proceed with research, experimentation, observation and analysis that will help them in finding their own responses to the issues and in solving problems.

The starting point is students' current understanding, and the goal the active construction of meaning by building connections between that understanding and the new information and experience derived from the inquiry into the new content.

Inquiry, interpreted in the broadest sense, is the process initiated by the student or the teacher that moves the student from their current level of understanding to a new and deeper level of understanding. This often involves many of the following activities:

- speculating, exploring, questioning
- making connections between previous learning and current learning
- researching
- developing and testing theories
- collecting data, reporting findings and constructing explanations
- clarifying existing ideas and reappraising perceptions of events
- identifying assumptions
- taking and defending a position
- solving problems in a variety of ways
- analysing and evaluating
- considering alternative explanations.

The approach to inquiry between the programmes shifts from a transdisciplinary model in the PYP to a more disciplinary approach in the MYP and the DP. Students must be taught the skills, strategies and knowledge needed to be effective inquirers, in developmentally age-appropriate ways, throughout the continuum.

Critical thinking

The IB learner profile states that IB students strive to become “thinkers” by applying thinking skills critically and creatively to approach complex problems and make decisions. To think critically is to be curious, to question, to connect, to search for alternative reasons or explanations, to challenge, to be able to stand back and take an objective view. Students, therefore, must be taught the tools of critical thinking in appropriate contexts, as well as how to apply them rigorously.

To think critically means students reflecting on, thinking about and analysing a text, argument or opinion so that they do not just accept what is stated but form their own judgment. To think critically is to explore and understand the reasons for beliefs and their implications. In our 21st century knowledge society we have

never had so much information, in such a variety of forms and from such a range of sources. It is, therefore, essential that students learn how to think critically so as to be able to:

- determine the validity and authenticity of what they read or hear
- question the attitudes and history behind what they read or hear
- develop the confidence and experience with which to form an opinion.

It is also essential that IB students have the opportunity to engage with subject matter that is relevant, provocative, challenging and significant and with which they can employ their critical-thinking skills to the full.

The learning environment: Active learning in a supportive school culture

In a classroom based around metacognition, structured inquiry and critical thinking, students will be engaged and intellectually involved. A number of teaching approaches will be used, depending on the subject, the task and the age group. These will include whole-class instruction and interaction, individual and group work, role play or simulation, and also activities centred on an investigation. Whatever the approach, they will all value the voice of the learner. Students should be consistently engaged with authentic problems and issues and they should be learning basic skills and knowledge, and developing understanding in these real-world contexts.

The learning environment in a school is the setting and atmosphere in which learning takes place. It encompasses the corridors, cafeteria, playgrounds and classrooms, as well as the environment beyond the school. The learning environment of a school is critical. IB programmes require a particular learning environment that:

- fully promotes all the attributes of the IB learner profile
- makes the values of the three programmes explicit
- values the environment beyond the school and recognizes its importance in the lives of students
- values learning and the learner.

Metacognition, structured inquiry and critical thinking are not recipes for teaching—they are approaches to teaching and learning that presuppose particular beliefs about the way students learn. Students are unlikely to risk taking another perspective, challenging an opinion or asking an unusual question if they don't feel that intellectual risk-taking, open-mindedness or curiosity are valued and respected. The teacher creates the learning environment and students are adept at working out what sort of environment has been created, how that classroom environment fits within the school and, therefore, how they should respond. The learning environment itself is a resource for learning; it should be stimulating, provocative and promote unobserved learning.

With an effective learning environment, based on the IB learner profile, the learning of bodies of knowledge and the mastery of skills, the development of attitudes and dispositions should occur within a context that is relevant and meaningful to students themselves, to their communities, their local environment and the world. Knowledge and skills should be approached through a variety of perspectives and be connected to other areas of learning and contexts in as many ways as possible.

Learning is a process that is facilitated, mediated and modelled by the teacher. IB students must fully understand the process of learning in order to learn as effectively as possible. All IB teachers need to be teachers of learning. They must help students understand how they learn best and how their learning is perceived; they must help them understand the learning environments they may encounter and how to respond to them; they must help them become learners who are able to reflect purposefully on their progress; they must encourage them to value learning as an essential, integral and wonderful part of their everyday lives.

Summary

Students in the PYP, MYP and DP learn best when:

- their prior knowledge is considered to be important
- learning is in context
- context is relevant
- they can learn collaboratively
- the learning environment is provocative
- they get appropriate feedback to support their learning
- diverse learning styles are understood and accommodated
- they feel secure and their ideas are valued and respected
- values and expectations are explicit
- there is a culture of curiosity at the school
- they understand how judgments about learning are made, and how to provide evidence of their learning
- they become aware of and understand how they learn
- metacognition, structured inquiry and critical thinking are central to teaching in the school
- learning is engaging, challenging, rigorous, relevant and significant
- they are encouraged in everything they do in school to become autonomous lifelong learners.

Assessment

The principles of IB assessment

Assessment in all three programmes must support and encourage effective teaching and learning in the classroom. It should be based on professional judgment and should reflect the intercultural dimensions of the programmes. Assessment is aimed at determining the learners' levels of understanding. Therefore, it is essential that teachers determine from the beginning what kind of assessment will allow learners to show that understanding.

A distinction can be made between:

- summative assessment—aimed at determining a student's achievement level, generally at the end of a course of study or unit of work, and
- formative assessment—aimed at identifying the learning needs of students and forming part of the learning process itself.

Although these two functions are apparently quite distinct, the same assessment instruments can often be used for either purpose, the difference lying in the way the outcomes of the assessment are interpreted and applied (Black 1993; Wiliam and Black 1996). The two approaches should interact and be mutually supportive.

There are key principles of assessment that are common to all three programmes.

- Assessment is integral to planning, teaching and learning.
- The assessment system and assessment practices are made clear to students and parents.
- There is a balance between formative and summative assessment.
- Opportunities for peer and self-assessment are planned for.
- Opportunities for students to reflect on their own learning are planned for.
- Students' current knowledge and experience are assessed before embarking on new learning.
- Students are provided with feedback as a basis for future learning.
- Reporting to parents is meaningful.
- Assessment data is analysed to provide information about the teaching and learning, and the needs of individual students.
- Assessment is used to evaluate the effectiveness of the curriculum.

Assessment across the continuum

The philosophy of assessment and the IB assessment principles apply to all three programmes. There are key differences in the assessment systems, in order to:

- meet the needs of students at particular ages and stages of development
- incorporate national requirements that schools may have to abide by
- meet the requirements of higher education institutions around the world.

There is a progression from wholly internal assessment in the PYP to largely external final assessment in the DP, with the MYP bridging the gap by keeping final assessment internal but ensuring that it is externally

validated. It is the responsibility of the IB to ensure that the processes and procedures for all three systems are clearly explained and are transparent to schools and teachers; it is the school's responsibility to manage the transition from one system to the next and to ensure that teachers, students and parents fully understand the nature and practice of each system.

Assessment in the PYP

The prime objective of assessment in the PYP is to provide feedback on the learning process. Assessment is carried out entirely by PYP teachers; the IB provides overall expectations for each subject area but does not provide external moderation or examinations.

PYP teachers employ techniques for assessing students' work that take into account the diverse, complicated and sophisticated ways that individual students use to make sense of their experiences. The assessment strategies and tools proposed by the PYP—rubrics, exemplars, anecdotal records, checklists, continuums, portfolios of work—are designed to accommodate a variety of intelligences and ways of knowing. Where possible, they provide an effective means of recording students' responses and performances in real-life situations that present real problems to solve. These authentic assessment strategies may be used in conjunction with other forms of assessment, which may include standardized tests, in order to assess student performance, basic skills levels and the efficacy of the programme.

In the final year of the PYP, students participate in a culminating inquiry, the PYP exhibition. It is both a transdisciplinary inquiry conducted in a spirit of personal and shared responsibility, as well as a summative assessment activity that is a celebration and rite of passage, symbolic and actual, from the PYP into the middle years of schooling (see "The PYP exhibition" in the section "The culminating experience").

Assessment in the MYP

The primary objective of assessment in the MYP, as with the PYP, is to provide a basis for future learning. All IB World Schools that offer the MYP are responsible for organizing relevant assessment and reporting procedures according to the objectives of the programme. The IB provides no external examinations in the MYP. Assessment is carried out by teachers and relies on their professional expertise in making judgments based on the prescribed MYP assessment criteria defined in the subject guides. This assessment system allows schools to incorporate multiple forms of assessment adapted to the learning objectives, including broad-based examinations where appropriate, as well as national requirements that may be imposed on them by local circumstances.

Schools are expected to structure both the curriculum and assessment procedures according to the needs of their students and their local context. All schools must develop assessment procedures based on the assessment guidelines and criteria described in the MYP subject guides. Teachers must ensure they assess their students fairly by giving them adequate opportunities to show clearly what they can achieve in relation to the objectives of each subject. The assessment strategies recommended in the MYP are similar to those used in the PYP and in the DP.

Schools may request IB-validated grades, on a scale of 1 to 7, issued on official MYP records of achievement and MYP certificates for students completing the programme. For schools opting for this validation procedure, standardization of assessment is ensured through a process of external moderation of teachers' internal assessment. The official MYP subject criteria for year 5 of the programme and corresponding achievement levels must be used as the basis for results submitted to IB Cardiff. For schools not requesting IB-validated grades, monitoring of assessment is compulsory at designated intervals to ensure assessment in the school is meeting the required standard.

In the final year of the MYP, students participate in a culminating project, the personal project, a significant body of work produced by the student over an extended period and assessed internally by the school. It is the product of the student's own initiative and creativity, which must reflect a personal appreciation of the areas of interaction and the application of skills acquired through approaches to learning. The MYP personal

project, like the PYP exhibition, can be considered a rite of passage into the final years of schooling, and an excellent preparation for the extended essay in the DP (see “The MYP personal project” in the section “The culminating experience”).

Assessment in the DP

Formal assessment in the DP is summative assessment, designed to record student achievement at, or towards, the end of the course of study and used to contribute to the final qualification. Final assessment is high-stakes, criterion-related performance assessment. However, over the course of the two years, teachers must engage in assessment for learning, as they do in the PYP and the MYP, using a wide range of assessment strategies appropriate to the nature of the understanding they are assessing. As in the PYP and MYP, the single most important aim of assessment in the DP is that it should support and encourage future learning. Absolute reliability of assessment results, though highly important, cannot take priority over student learning.

All courses are assessed by IB-appointed external examiners, except for creativity, action, service. Different assessment models apply to each course of study but all include significant components that are internally assessed. During their two years of study in the DP, students produce work for internal assessment, some of which is marked by classroom teachers according to subject-specific criteria, and then moderated by external examiners. The internal assessment tasks address areas of understanding and competence for which examinations are less appropriate. Students also complete assessment tasks during the course of study under the guidance of teachers, which are then externally examined. At the end of the two years of study students sit examinations in most of the subjects, which are assessed by teams of external examiners. Two examination sessions are held each year, corresponding to the school years in the southern and northern hemispheres, and results on a scale of 1 to 7 for each subject are awarded to students.

The extended essay is an in-depth inquiry into a focused topic intended to promote high-level research and writing skills, intellectual discovery and creativity. It provides students with the opportunity to engage in personal research into a topic of their own choice. This leads to a major piece of formally presented, structured writing. As with the PYP exhibition and the MYP personal project, the extended essay can be seen as a culminating experience, one that prepares students well for some of the academic challenges they will face in higher education (see “The DP extended essay” in the section “The culminating experience”).

Developing an assessment policy

There is a written assessment policy in place that is available to all sections of the school community.

Programme standards and practices

It is a requirement that every IB World School has an assessment policy that reflects the school’s philosophy and position on assessment. Developing an assessment policy is often the catalyst for schools to focus on their philosophy for assessment and to achieve a common understanding of their aims and objectives across the programmes.

An assessment policy is a written document that aims to clarify teachers’ understanding of the whole assessment process within their school setting. It is not a static document but one that is constantly evolving to reflect the assessment needs of the school. Collaborative reflection is a key component of developing an assessment policy, and must involve both teaching staff and administrators.

Once an assessment policy has been developed and agreed upon, it will apply across the whole school. A clear assessment policy needs to be established in the school and communicated to students and parents. It will include the following.

- Purpose for assessment (What and why do we assess?)
- Principles of assessment (What are the characteristics of effective assessments?)
- Assessment practice (How do we assess?)

When creating an assessment policy, schools need to keep in mind the overall value of the collaborative process that the school community will go through. The most important thing is the collaboration that must take place within a school in order to create an assessment policy. Although producing a written document is the intended outcome, it is the collaborative nature of the process and the associated discussions that are of most value. By involving those with a vested interest, the assessment policy then truly reflects the school's philosophy (see "Leading the development of the continuum: Pedagogical leadership"). A system should also be put in place to allow regular reviews of the assessment policy.

The following questions can be used to assist a school to establish an assessment policy.

- What is the school's philosophy of assessment?
- How is the school's philosophy of assessment aligned to its mission statement?
- What practices will be agreed upon in order to fulfill this philosophy?
- What are the purposes of assessment for all the key groups within the school community (students, teachers, parents, administrators)?

Schools will find it helpful to develop agreed assessment practices as a part of their assessment policy. These are practices that are put into place within the school that address how the school assesses, records and reports student progress.

The following questions can be used to help a school establish agreements on assessment.

- How should we structure assessment?
- How often should we assess?
- What do we assess?
- Who is responsible for assessment and how?
- How should assessment information be recorded?
- How should assessment information be analysed and reported?
- How will assessment information be reported to students and parents?
- Who will have access to assessment information and where will it be located?
- How often will we review our assessment practices?
- Are there any mandatory requirements that must be satisfied?
- How will the school combine IB expectations with those of local/national requirements?

Leading the development of the continuum: Pedagogical leadership

Pedagogical leadership is about the effective management of resources—people, time and money—to ensure the enhancement of the teaching and learning in order to address the overarching mission of the school. Equally importantly, it is about providing direction and guidance and the modelling of good practice to ensure high quality teaching and learning throughout the school.

Changes in the classroom can only happen in the context of overall school improvement. Given the vital role of the school's leadership in this process, it is clear that the implementation of the continuum of international education will depend to a large extent on the support and, more importantly, the understanding and practical involvement of the school's leadership. This applies to the successful implementation of the three IB programmes individually, and to the successful implementation and development of the continuum.

What constitutes effective, sustainable leadership?

In an IB World School, effective school leaders must see themselves, first and foremost, as pedagogical leaders. It may be the case that the vision and drive of one individual, the charismatic leader, may bring about more immediate innovation, having a marked impact on the entire school community. However, models of team leadership have overriding benefits in comparison with the charismatic leadership model, particularly for schools that have a transient population of both teachers and school leaders. Sustainable pedagogical leadership is the goal, most likely to be achieved when leadership is devolved throughout a leadership team. This is particularly true in the implementing of the IB programme continuum, which may take place in one school on one campus, in one school spread across several campuses, or in several schools across a district.

Given that IB World Schools are communities of learners, school leaders should be mindful of ways to motivate, challenge and empower teachers to accept and enjoy leadership roles and to support them on that path. The “distributed leadership model”, whereby “deeper and wider pools of leadership talent” are developed within the school (Hargreaves and Fink 2006) is the most effective and practical model for the implementation of the three IB programmes individually, and the implementation of the continuum. Where teachers take on responsibility for aspects of programme implementation and curriculum development the chances of sustaining change and effecting school transformation are much greater.

The pedagogical leadership team

The pedagogical leadership team will have overarching responsibility for ensuring that the teaching and learning will be enriched in line with the philosophical and implementation requirements of IB programmes, in accordance with the *Programme standards and practices*.

An effective pedagogical leadership team in a two- or three-programme school or district will include:

- the superintendent/head of school
- principals/assistant principals
- curriculum coordinator/programme coordinators.

A school may decide to appoint a curriculum coordinator/dean of studies/teaching and learning coordinator—a variety of titles can be used—to focus on the whole curriculum and ensure effective communication between the programmes and the development of a coherent, whole-school curriculum.

To support the school community fully in implementing the IB programme continuum, the pedagogical leadership team must be fully informed about all the IB programmes being implemented in the school. Incoming school leaders who are not familiar with all the IB programmes will need opportunities to learn in detail about the programmes as part of the induction process.

The IB learner profile is a reference point for the learning, behaviour and attitudes of all within the IB World School—students and adults—and, as such, is a device to support collaboration, communication and reflective practice within the pedagogical leadership team.

An effective pedagogical leadership team for the continuum will require time to develop good working relationships and frequent, open and respectful communication focused on teaching and learning. It is a requirement of all the programmes that time is allocated for teachers to plan collaboratively. The need for planning time for the pedagogical leadership team in a two- or three-programme school or district is just as compelling.

The role of the programme coordinator

The role of the programme coordinator in all three programmes is evolving. Effective implementation of the programmes requires that the programme coordinator be a member of the pedagogical leadership team and take a leadership role in advising and working with teachers on the development of the curriculum. The programme coordinator needs a deep and thorough understanding of the programme in order to support others in demonstrating their best learning and teaching practices. Administrative work is only part of the job. Programme coordinators need the time and resources to carry out such a role successfully, especially in a school that is implementing the continuum. In a two- or three-programme school, the three IB programme coordinators have an extremely important role to play in programme articulation and ensuring the smooth transition from one programme to the next.

The model of shared pedagogical leadership that a school decides upon needs to be communicated throughout the school community. The team is pivotal in shaping and strengthening the programme continuum and the school community, particularly important in a time of change.

Strategies for developing an effective continuum of international education

- Identify and communicate the roles and responsibilities of each member of the pedagogical leadership team for the programme continuum.
- Identify and train teachers to take on responsibilities for pedagogical leadership within grade levels and in the classroom.
- Develop, in collaboration with specific interest groups, a clear, long-term strategic plan for the articulation of the programme continuum, with actions and a timeline for its implementation.
- Structure activities to develop the continuum collaboratively.
- Organize the schedule to allow for a variety of ongoing collaborative planning opportunities, involving principals, programme coordinators and classroom teachers, as appropriate, for the vertical articulation of the academic disciplines and other key areas of the continuum (for example, learning through service to the community, academic honesty).
- Ensure that all teachers and administrators have access to the documentation for all IB programmes.

- Ensure that every new teacher and new administrator is informed about all the IB programmes through an induction process.
- Regularly arrange general sessions about IB programmes for the whole school community and for interest groups within the community (for example, parents).
- Demonstrate reflective leadership practice that values feedback.
- Develop policies and procedures including whole-school policies for language, special educational needs, assessment and academic honesty.

Supporting ongoing professional development

The pedagogical leadership team has a responsibility to encourage the learning of everyone in an IB World School. This is clearly reinforced by defining an IB learner profile that is applicable to all, not just to students. Alignment with the IB mission statement also requires the school to demonstrate that it values the concept of lifelong learning.

In an IB World School, or a district, that is implementing two or three programmes, opportunities should be provided for both teachers and school leaders to not only learn about the content of the other programmes but to see them in action. Observing classes and talking with colleagues in another programme will not only broaden teachers' understanding of IB programmes, but also of the learning experience of the students. The transitions between programmes will then become clearer and more meaningful to teachers and, in turn, to the students. Such interaction and dialogue will also strengthen the school community.

Equally, time and resources allocated for teachers and school leaders across programmes to plan, develop and implement collaboratively key areas of the continuum such as policies on language, assessment, special educational needs and academic honesty will provide very rich professional development opportunities in their own right.

As the number of two- and three-programme schools grows, the IB will provide more formal professional development opportunities for teachers and school leaders through cross-programme workshops and conferences.

The language continuum

Language stands at the center of the many interdependent cognitive, affective, and social factors that shape learning.

David Corson (1999, p 88)

A continuum of learning language, learning through language and learning about language (Halliday 1980) is woven through the three IB programmes. Learning in more than one language is considered essential to an international education and for enriching intercultural understanding. Consequently, there are language requirements, as well as language learning opportunities, built into all three programmes (see the IB document *Programme standards and practices*).

The IB learner profile describes a communicator as someone who understands and expresses ideas and information confidently and creatively in more than one language and in a variety of modes of communication. In the PYP an additional language is introduced to students by the age of 7; MYP students must register in two languages for the MYP certificate; in the DP students must study two languages—a “best” language and a second language—to achieve a full diploma.

Language, however, is not separated from overall learning. As the main tool for building our knowledge of the universe and ourselves, language is crucial for success across the whole curriculum in each of the IB programmes. Language is integral to exploring and sustaining personal growth and cultural identity; it is closely linked to the development of a healthy self-esteem and emotional well-being, both of which are necessary for successful learning to take place. Maintaining and developing the mother tongue of all learners is especially important in this respect.

As well as being the major medium of social communication, language is tightly linked to cognitive growth; it is fundamental to the processes by which meaning and knowledge are negotiated and constructed. The language of academic discourses, along with the concepts and bodies of knowledge of any one discipline are closely interwoven. The features of different discourses have been identified and are described in linguistic genre theory. A linguistic genre is a particular text type created by a specific communicative situation.

As learners build understanding through transdisciplinary inquiry in the PYP, and through interdisciplinary and disciplinary learning in the MYP and DP, they move along a continuum of increasing ability to use and understand the range of academic linguistic genres in reading, writing, speaking and listening.

Learning in a language other than a mother tongue in IB programmes

As a result of the global population becoming more mobile, an increasing number of learners in all three IB programmes have rich and complex multilingual backgrounds. The language profile of a learner may demonstrate two or more languages at various stages of development in his or her learning continuum. Many learners in IB programmes are in fact learning through a language that is not their mother tongue. These learners are potentially able to become “balanced bilinguals” who are highly proficient, literate and knowledgeable in two or more languages. The IB recognizes the value of this language diversity in developing internationally minded and interculturally aware people. The IB also sees the consequent need to provide guidelines for schools on practices that nurture the full language learning potential of all learners wherever they are on the continuum. When good practices are in place, based on a thorough understanding

of how language exerts an impact on learning, these ensure that there will be equal access to the curriculum for all learners, including those who are learning in a language other than their mother tongue.

A wealth of expertise on good practices that promote successful language learning along the continuum is now available as a result of prolific research in education, as well as schools' creative responses to the challenges presented by classroom populations that are no longer monolingual and monocultural. The IB is committed to sharing this expertise with all stakeholders through documentation and through workshops for professional development.

The following conditions must exist for effective language learning to take place.

- A conceptual understanding by teachers of how language and learning are connected in the continuum is critical in understanding why all IB teachers are teachers of language, and how they can be effective as language teachers no matter what their academic specialism.
- New learning is constructed on previous conceptual understandings and so activating prior learning and building up necessary knowledge is important good practice, particularly when the group is diverse and learners do not necessarily share the same cultural or linguistic background. Language profiles of students are practical documents that can help teachers be aware of the diversity within a class.
- Scaffolding for understanding enables learners to accomplish a task that would be impossible without such a strategy and is an effective way to extend learning. Scaffolding includes strategies such as graphic organizers and concept mapping.
- Language is integral to identity, which in turn determines how a person will act. Therefore, it is critical that the self-esteem of every learner is affirmed. The culture of the classroom should be collaborative and inclusive, and should provide an environment where students feel able to take risks in their language learning.
- The development of structures and systems for the support and maintenance of students' mother tongues is vital to support students in their cognitive development.

Developing a school language policy

The process of developing a language policy provides an excellent opportunity to consider how the continuum of language learning is articulated at the beginning and end of any programme, and from one programme to the next. It is also an opportunity to discover any ambiguities and contradictions in beliefs and practices within the school.

The process requires that all implications for language learning across the continuum are made explicit. For example, where the host country's language is different from the language of learning in the IB programmes, consideration needs to be given to how it can be incorporated into the curriculum. Another implication is likely to be in the provision of support for mother-tongue development and maintenance for those students who are learning in another language. It might be considered whether such support could be incorporated into the programmes as the additional language in the PYP, as a language A or B option in the MYP or as a special-request language, or language A or B, in the DP. Long-term planning for language development along the continuum is important for successful learning and parents should be a part of this planning. Channels and systems of communication to keep parents informed and encourage their input should be made clear in a language policy.

The conditions and practices that need to be in place for successful language learning may also have an impact on the school's admissions policy, the assessment policy, professional development and staff recruitment.

The role of language across the programme continuum is crucial in nurturing the full development of each learner and fostering the values of diversity, international-mindedness and intercultural awareness. The development of an effective language policy will focus the attention of the whole school community on this most fundamental dimension of the curriculum and school life.

Special educational needs

Introduction

With the increase in inclusive practices and a growing awareness of the rights of parents and students, perceptions of special educational needs (SEN) are changing in the wider community and in education in particular. In recent years there has been a major shift towards locating special education within mainstream education.

Historically, special education was based on two assumptions:

- not all curriculums are accessible to all students
- students with special needs should be withdrawn from certain classes to develop skills identified as lacking.

The special education teacher was separate from the class/subject teachers and was often consulted only after a difficulty or issue became identified as a problem. Changes have taken place over time that have altered the focus on the student from a deficit/medical model to identifying the student's learning style, scaffolding their learning and differentiating the curriculum in order to show their true potential. The focus has shifted from studying differences between learners to learning for all, and it is constantly evolving.

There is now a shift from specialist teachers solving issues to those issues being the responsibility of all teachers who are part of a student's education. In all three IB programmes it is the class/subject teacher's role both to convey the content of a lesson and to teach students the learning processes required for reasoning, inquiring, analysis and problem solving in a particular academic domain. Teaching generic learning strategies divorced from academic content is likely to result in students' failure to apply these strategies when it really counts, both in an academic and a social context.

The IB recognizes the difficulties associated with attempting to find a universal term that is understood in any context. Selecting a term that is acceptable internationally, easily recognizable and indicates a student's assessment needs is difficult. The generic term "special educational needs (SEN)" has been adopted since it caters for the wide spectrum of need along a continuum, including the gifted and talented.

Special educational needs in IB programmes

The responsibility of IB teachers

All IB teachers will teach students with special educational needs (SEN) and, therefore, need to know:

- the factors that affect student learning and how best to respond to them
- how to differentiate and match teaching approaches to student needs
- how to differentiate and match teaching approaches to a school's SEN policy
- how to make use of technology that has assisted in alleviating and removing barriers to learning.

If all these aspects are addressed in some way then transformational learning for all involved will take place.

The role of SEN teachers in IB World Schools

The SEN teacher is often pivotal in ensuring the success of students with special educational needs along their educational pathway. The role may change as a student progresses through the programmes and increases their independence in learning, but communication to key staff about a student's needs and history is an essential part of the work of an SEN teacher. A history of each student should be well documented; it may include the following:

- background details of past experiences and family situation
- copies of past assessments or a summary document
- yearly reports from the SEN teacher, assistants or aides
- samples of student work from a variety of academic areas
- a note if other relevant information is held elsewhere
- minutes of meetings with family, student, staff and other professionals
- any special interventions and strategies employed so far to assist learning.

Collaborative planning between SEN staff and class/subject teachers in designing units of work, co-teaching and implementing strategies that support their students will enable equal access to the curriculum for all students, as well as supporting cooperative group learning. Collaborative teaching will require changes in the roles and responsibilities of school personnel and administrative support if the benefits are to encompass all involved.

SEN in the Primary Years Programme

Every student is seen as special within the PYP and the class teacher is responsible for understanding the needs of each individual within their class and catering to their learning styles. The relationship between class teachers and other support staff within the PYP is seen as being collaborative and cooperative where all are actively involved in the planning processes that support teaching and learning.

Early intervention is a critical aspect of developing effective learning, with regular assessments (formal and informal) of progress, not against others, but of a student's individual growth, which covers not only the cognitive domain but also the physical, affective and social domains.

Development during the early years is seen as a dynamic, two-way process wherein the student's characteristics (nature) both influence and are influenced by the child-rearing context (nurture). Interventions designed to decrease risk factors and strengthen resilience provide a firm basis for strong future development along the programme continuum. These mechanisms will be age-appropriate, will reflect the growth, interests and talents of the student and will have a long-term impact on the final outcomes in the last years of a student's education.

SEN in the Middle Years Programme

The MYP is designed as an inclusive programme, catering for all students in the 11–16 age range. The central place of the areas of interaction, and in particular the approaches to learning, helps teachers and students respond in a flexible way to varied learning needs, including individual needs related to language acquisition for second-language students, or special educational needs of all kinds.

A critical stage in learning and development, which is closely related to personal and emotional well-being, occurs during the MYP years and can have a huge impact on academic learning and motivation. The MYP supports students during a vulnerable time in their education, when many are struggling with issues of identity and self-esteem. The caring and safe environment fostered within the MYP encourages them to explore issues related to themselves and the wider community. It allows them to make significant connections both within and outside the school, which will enhance all aspects of their growth: academic,

social and emotional. During these years it is the exploration and consolidation of good learning strategies that will enable students with special educational needs to achieve successful outcomes.

It is important that procedures and processes are put in place in good time to support students as they pass through the MYP programme. This may involve differentiating the curriculum, using particular teaching strategies such as scaffolding to enable students to access the content in some subject areas, as well as the use of assistive technology. Specific arrangements may include:

- extra time to complete tasks
- using a computer with spellcheck
- using a scribe to record points of view
- employing a reader to access dense text.

These are all valuable strategies and may lead to “special arrangements” being granted by the IB for the student during their years in the DP.

In the MYP the only time there needs to be a formal application for exemption or special arrangements is with regard to issues that may prevent a student from completing some aspect of a subject or fulfilling all the requirements of the course at the end of year 5 of the programme. These details should be filled out on the appropriate form and forwarded to IB Cardiff prior to the end of MYP year 3.

The MYP establishes a sound foundation in skill development and preparedness for further learning. Many effective learning strategies should be in place by the end of the MYP years for the student to work independently and successfully in the DP.

SEN in the Diploma Programme

The DP has well-established support mechanisms for special educational needs students outlined in the publication *Candidates with special assessment needs*. The identification of any student with a learning issue must be completed prior to starting the programme. Various professional assessments of the student may have been carried out over a number of years but the most recent, not more than two years old, should be used as evidence on entering the programme to support an application for special arrangements. There are two procedures in place to cater for special requirements at any time via the D1 and D2 application process, which coordinators are made aware of in the *Handbook of procedures for the Diploma Programme*.

“Special arrangements” that can be authorized by IB Cardiff once the correct procedure has been followed include:

- modifications to exam papers—size of font, coloured paper
- extensions to deadlines
- assistance with practical work
- additional time
- rest periods
- information and communication technology
- amanuenses/scribe and transcription
- readers.

These arrangements may be used for both internal and external assessments although the formal request is only required for the external arrangements.

The programme coordinator has a particular role and responsibilities towards students with special educational needs. It is important to bear in mind the following points when requesting special arrangements.

- Consultation must be done prior to a student beginning the programme.
- The history of the individual student's case must be well established; careful subject selection is required for the student.
- Documentation must be complete and up to date according to the requirements described in the document *Candidates with special assessment needs*.
- The coordinator is the signatory for all documentation, even if it is collated by others.
- It must not be assumed in advance that any particular application will be successful; each is decided on its own merits.

All teachers should be fully informed about a student's particular needs from the outset. If a teacher has concerns about a student's ability to learn effectively in a particular class, it is essential the teacher discusses these concerns with others at a very early stage rather than wait until it is too late. Many students who have considerable ability are able to mask their particular needs until they are challenged by the demands of a course that stretches their intellectual ability, as well as their management and organizational skills.

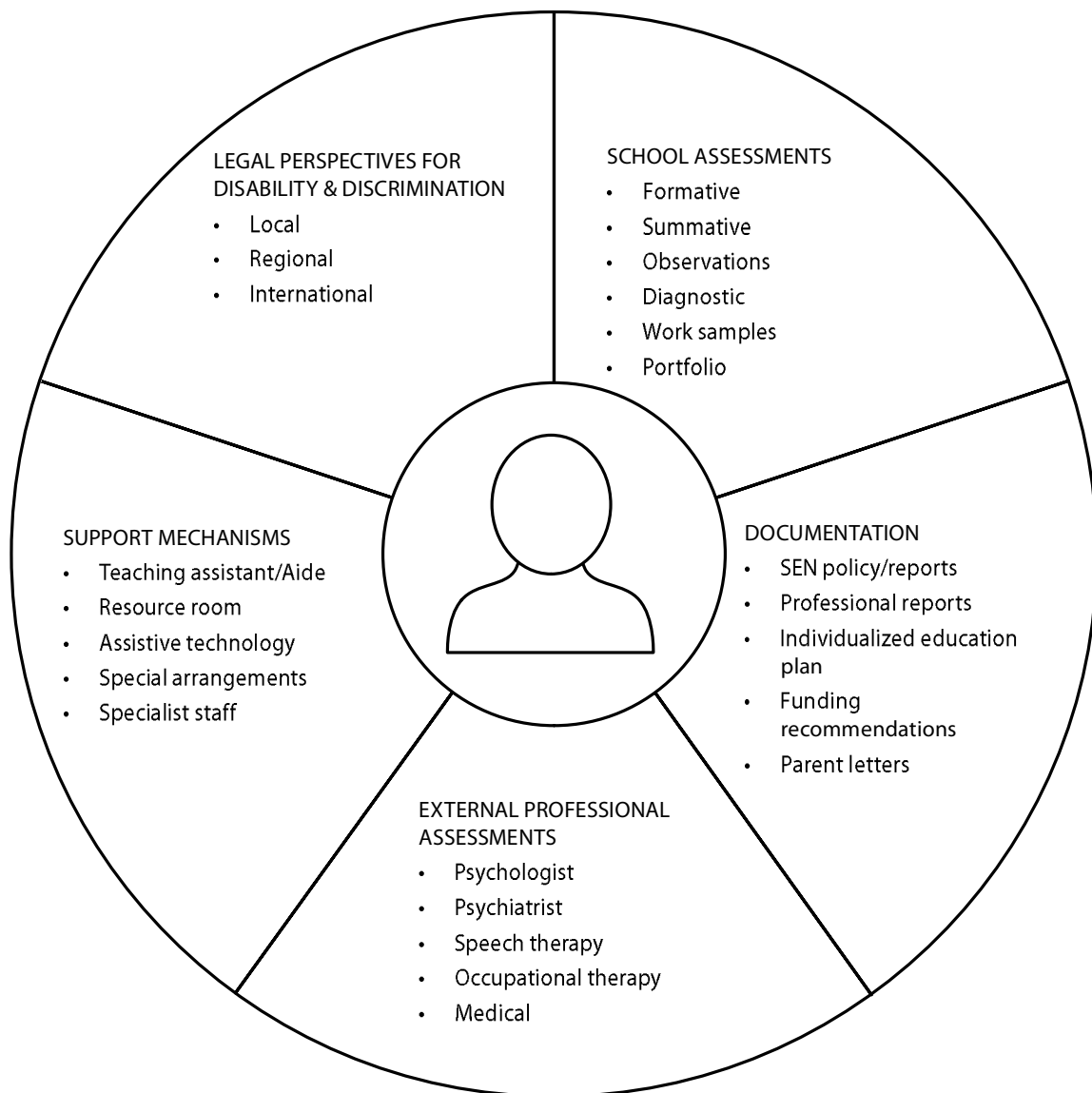
Developing an SEN policy and programme

Where schools offer two or three IB programmes the continuation of support for students with special educational needs and the flow of information should result in a smooth transition both for the student and the teaching staff.

When considering how to support students with special educational needs across the IB programme continuum there are a number of questions that may guide the development of an effective SEN programme and a school SEN policy.

- What are the local, national and international legal requirements of teachers in meeting the needs of all students?
- What is the extent of our students' special educational needs at present?
- What expertise do we already have?
- What expertise will we need?
- What do we already do for SEN students?
- Which testing or screening tools do we have access to?
- Which tests are our staff qualified to administer?
- Who will be responsible for notifying parents, students and teachers of testing results?
- How will we document our provision for SEN?
- How will the provision for SEN be structured, coordinated and monitored?
- How will our provision for SEN be supported by our professional development programme?
- What information should we hold on our SEN students, where should it be held and who should manage it?
- Who will have access to student files?
- How will we coordinate the passing on of information at transition stages—changing schools, moving from one IB programme to the next?
- Where do we need to improve our provision for SEN students?

In conclusion, the transitory nature of many students participating in IB programmes places additional pressure on schools to provide the most appropriate teaching and learning. Greater awareness of the ways and means to collate, maintain and communicate useful data about students is essential to meaningful progression along the IB programme continuum whether it is within schools or between schools.



Special needs staff utilize all this information to work collaboratively with class teachers to develop appropriate programmes for teaching and learning for all students

Figure 3:
Developing an effective whole-school SEN programme

Action, community and service, and CAS

Central to all three IB programmes, is the belief that education must extend beyond the intellectual to include not only socially responsible attitudes but also thoughtful and appropriate action. Learning through experience is fundamental to teaching and learning in IB programmes. In the PYP, MYP and DP, an attention to service to fellow students and to the larger community both in and outside school is expected of students. Through such service, students are able to grow both personally and socially, developing skills such as cooperation, problem solving, conflict resolution and creative and critical thinking, as well as developing their own identities. It is also through service that IB students may make the connections between their academic studies and real life. These actions are ways in which IB students demonstrate their commitment to the attributes of the learner profile. The actions that students choose to take with regard to their fellow students, and to their local or the wider community, may be considered the most significant summative assessment of the efficacy of the IB continuum of international education.

In each of the programmes, the role of the teacher in enabling students to choose their action, in facilitating this action and encouraging students to reflect on the action they undertake is vital.

What is encouraged or required of students in this dimension of the programme varies according to the developmental levels of the students and what is acceptable and reasonable for particular age groups. There is a clear continuum in the “action” of the PYP, “community and service” in the MYP and “creativity, action, service” (CAS) in the DP. The terminology differs because it describes as accurately as possible the component for that programme, each of which has some particular characteristics, but the principles are the same.

Action in the PYP

An explicit expectation of the PYP is that successful inquiry will lead to responsible action, initiated by the student as a result of the learning process. This action will extend the student’s learning, or it may have a wider social impact. IB World Schools that offer the PYP should meet the challenge of giving all learners the opportunity and the power to choose to act; to decide on their actions; and to reflect on these actions in order to make a difference in and to the world.

In the PYP action should be seen as a voluntary demonstration of a student’s empowerment in the context of the expectations laid down in the programme. The complex issues of the 21st century do not often suggest simple or self-evident solutions, and so inaction may also be a legitimate choice; indeed, sometimes, inaction may be the best choice.

The PYP advocates a cycle of involvement that provides students with opportunities to engage in purposeful and beneficial action, some of which may involve service to fellow students or the school community.

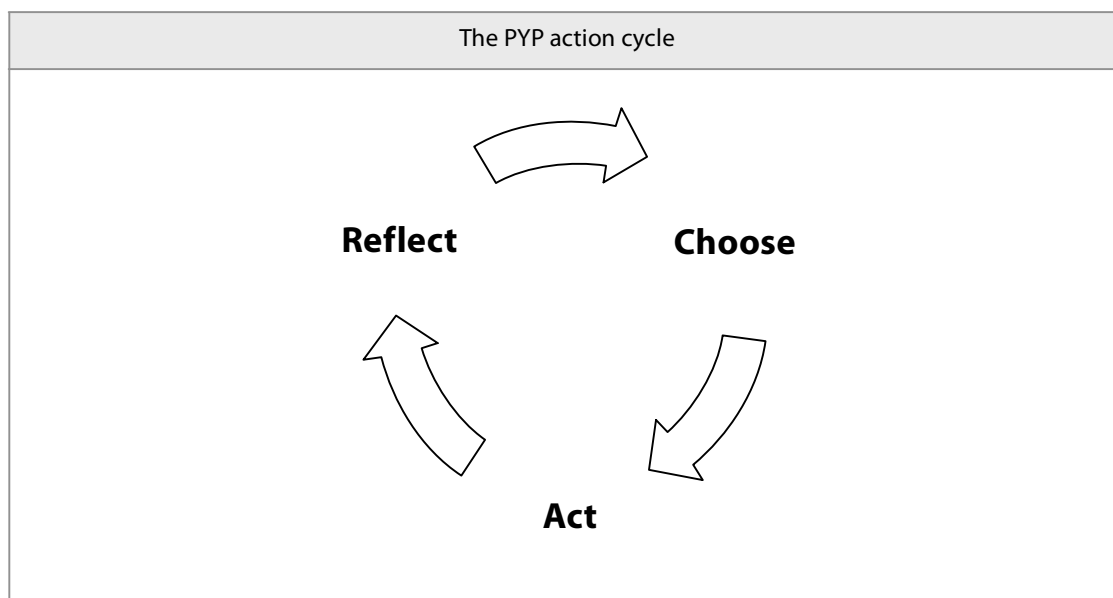


Figure 4:
The PYP action cycle

In the PYP effective action does not need to be grandiose. It can begin at the most immediate and basic level: with the self; within the family; within the classroom, the hallways and the playground. Effective action can be a demonstration of a sense of responsibility and respect for self, others and the environment. For younger children, the cycle of action helps them to develop the core of values and understanding upon which awareness of themselves within society and a sense of responsibility toward that society will, hopefully, grow.

Community and service in the MYP

In the MYP, action is also at the heart of community and service, which is one of the five areas of interaction. In early adolescence, the emphasis is on developing community awareness and understanding and a sense of responsibility toward the community, so that students become engaged and empowered to act in response to the needs of the community. Students are encouraged to look beyond the classroom, so that they discover the social reality of self, others and communities, and this awareness, in turn, may initiate involvement and service. Student reflection on the needs of the community and their ability to participate in and respond to the needs of the community contribute to the development of caring and responsible global citizens as described in the IB learner profile.

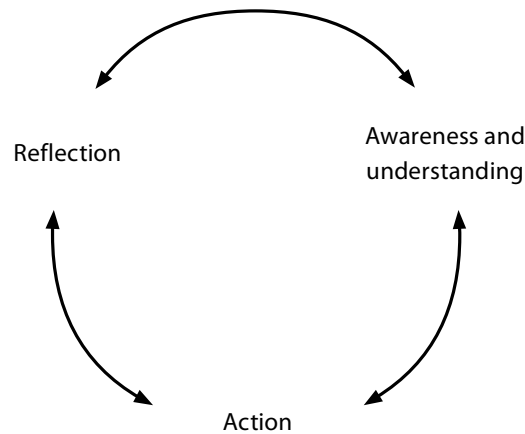


Figure 5:
The MYP inquiry cycle

In addition to requiring students to participate in the communities in which they live, community and service is incorporated into the study of the eight subject areas in the MYP so that responsible citizenship is encouraged as students deepen their knowledge and understanding of the world around them and how it relates to the relevant subject areas.

In the MYP, the emphasis with younger students is on developing an awareness of community; as the programme continues, there is a growing involvement in service to the community, in line with students' increasing maturity and autonomy. This strand is taken up in the service component of creativity, action, service (CAS) in the DP and in the increased importance of student-initiated activity.

Creativity, action, service in the DP

Creativity, action, service (CAS) is at the heart of the DP. It is one of the three elements at the core of the hexagon that are essential in every student's diploma. It involves students in a range of activities alongside their academic studies throughout the DP. The three strands of CAS, which are often interwoven in particular activities, are characterized as follows.

- **Creativity:** Arts and other experiences that involve creative thinking
- **Action:** Physical exertion contributing to a healthy lifestyle, complementing academic work elsewhere in the DP
(Please note that "action" in the DP is defined differently from "action" in the PYP.)
- **Service:** Unpaid and voluntary, an exchange that has a learning benefit for the student. The rights, dignity and autonomy of all those involved are respected.

CAS enables students to enhance their personal and interpersonal development through experiential learning. At the same time, it provides an important counterbalance to the academic pressures of the rest of the programme. A good CAS programme should be both challenging and enjoyable, a personal journey of self-discovery. Each individual student has a different starting point, and therefore different goals and needs, but for many their CAS activities include experiences that are profound and life-changing.

CAS should involve:

- real, purposeful activities with significant outcomes
- personal challenge
- thoughtful consideration and reflection on outcomes and personal learning.

The emphasis in CAS is on helping students to develop their own identities, in accordance with the values embodied in the IB mission statement and the IB learner profile. The cycle of experiential learning in CAS is a useful elaboration of the PYP action cycle.

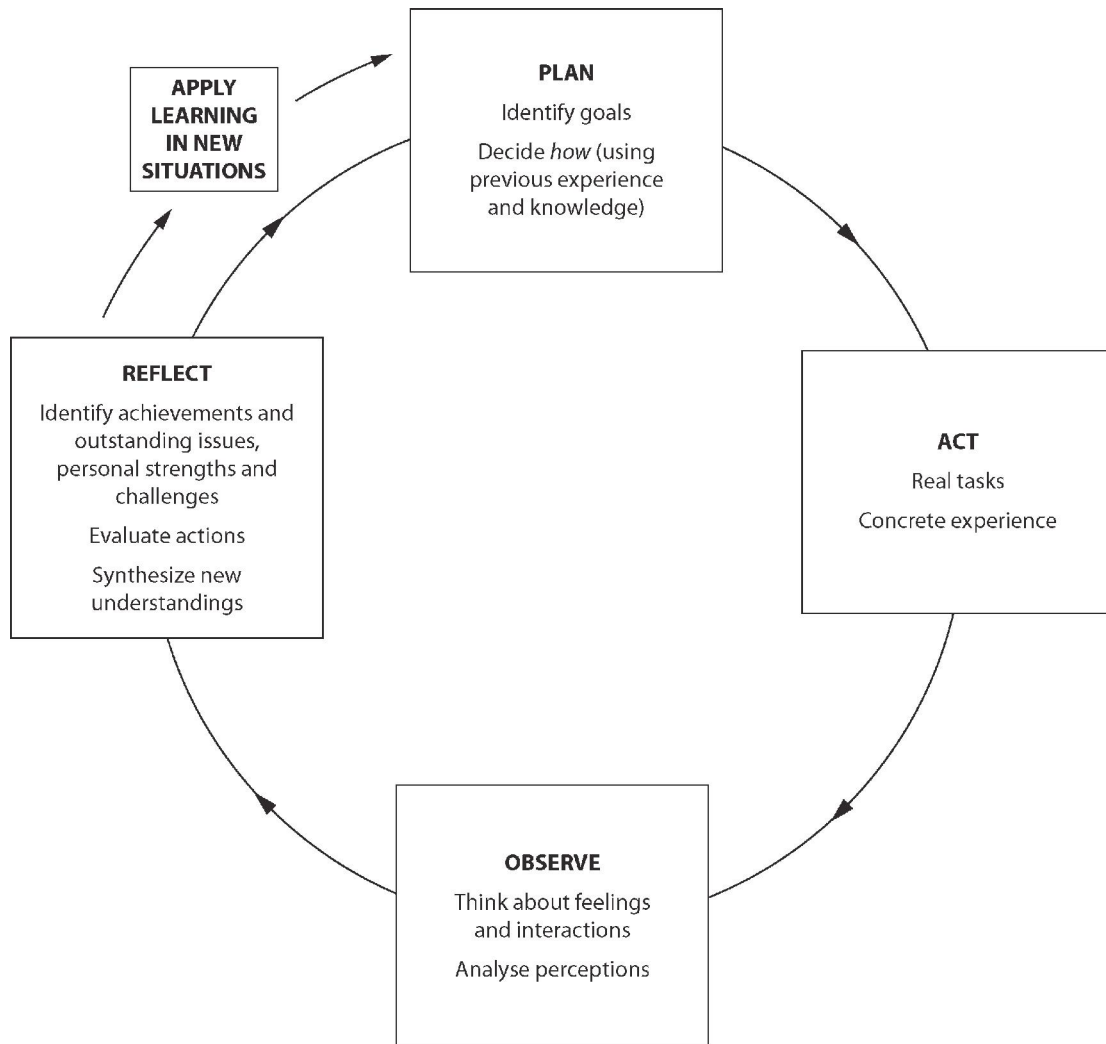


Figure 6:
The DP cycle of experiential learning

Action and community service activities provide ideal opportunities for students in different IB programmes to work together and interact. Older students are ideally placed to assist younger students and their teachers in classroom and extra-curricular activities. Service activities that are appropriate for all age groups encourage purposeful and genuine interaction across the age ranges and the building of friendships. Even more importantly, they provide opportunities for older students to become strong role models for younger students.

The culminating experience

In the final year of each of the IB programmes, all students complete a programme-specific inquiry that allows them to demonstrate a consolidation of their learning, in the case of the PYP and MYP, and to demonstrate the extension and development of their learning in the DP. All three inquiries are carried out over an extended period of time and require considerable commitment and the application of both academic and personal skills on the part of students. In these inquiries the students are guided through the process by teachers or supervisors and given formative feedback throughout; parents are fully informed about the nature of the inquiries and the work that is expected from the students.

The PYP exhibition

The exhibition represents a significant event in the life of both the school and the student, synthesizing the essential elements of the PYP and sharing them with the whole school community. It is an opportunity for students in their final year of the programme to exhibit the attributes of the IB learner profile that have been developing throughout their engagement with the PYP.

The PYP exhibition differs from previous work students will have undertaken in the PYP in that the students take charge more fully of the inquiry, including identification of a real-life issue to be explored. The central idea of the inquiry must be of sufficient scope and significance to warrant detailed investigation by all students in the final year of the PYP. The exhibition includes regular and carefully planned assessment.

The exhibition is “staged” to present the findings of the inquiry and to display evidence of student learning that has been ongoing through the process. The staging can incorporate many formats, such as interactive displays, debates, student-led workshops, drama performances or often a combination of formats. The audience for this staging may be other students in the school, parents, teachers and specially invited guests. Exhibition inquiries will often have local significance, and some schools take their exhibitions out into the community to present to local interest groups. Ideally the PYP exhibition will make a lasting impact on the community.

The MYP personal project

The personal project is a significant body of work produced by the student over an extended period in the final year of the MYP. It is the product of the student’s own initiative and creativity, which must reflect a personal appreciation of the areas of interaction and the application of skills acquired through approaches to learning.

In the PYP exhibition, there is a strong collaborative element as students are working around the same theme or issue, whereas in the MYP personal project students work independently and are encouraged to follow their own interests and select a subject that they want to work on, without any necessary reference to topics or subjects studied during the programme. The personal project could be as diverse as making a guitar and giving a concert, or researching and writing about the history of the Igbo tribe of Nigeria. All the projects involve elements of research and reflection, as well as the formal presentation of both process and outcomes. The personal project recognizes the growing independence of young adolescents and provides them with an opportunity to follow their passions or concerns.

The DP extended essay

The extended essay is highly academic in nature. It is an in-depth, individual inquiry into a focused topic from the list of approved DP subjects—normally one of the student's six chosen subjects for the diploma. It is intended to promote high-level research and writing skills, intellectual discovery and creativity. It provides students with an opportunity to engage in personal research into a topic of their own choice. This leads to a major piece of formally presented, structured writing, in which ideas and findings are communicated in a reasoned and coherent manner, appropriate to the subject chosen. The extended essay is the prime example in the DP of a piece of work where the student has the opportunity to show knowledge, understanding and enthusiasm about a topic of his or her choice.

Opportunities for celebration

These three experiences are highly significant events in the lives of IB students. For students who study one or all three programmes, they are rites of passage. For a two- or three-programme school or district, they provide ideal opportunities for school and community celebration. The PYP exhibition is designed to be just that; teachers, parents and students from the MYP and DP should be encouraged to visit it and talk with the PYP students. Similarly, the completion of the personal projects in the final year of the MYP leads very well into a presentation evening or an MYP exhibition of personal projects that will include performances and live presentations. The extended essay does not lend itself so well to such a presentation event, but extracts could be published in school journals or copies placed in the library for other students to read.

It is important that the school provides opportunities for students to talk with both younger and older students about their participation in these culminating experiences, possibly at assemblies or in small groups. It might even be possible for older students to co-tutor younger students, along with a teacher.

It is also important in a school that is implementing the continuum that students, teachers and parents are aware of significant events, such as these culminating experiences, occurring in all three programmes. This will deepen knowledge and understanding of each of the IB programmes and create a level of excitement and anticipation among students and their parents that will serve to strengthen the community, giving it opportunities for celebration that will develop into the rituals that bind a school community together.

Programme evaluation

Programme evaluation in the PYP, the MYP and the DP is both a requirement of and a service provided by the IB for all IB World Schools. The main purposes of programme evaluation are:

- to assess the implementation of the programmes in each school
- to assist the school in developing and maintaining dynamic programmes that reflect the philosophy and the programme standards and practices of the IB.

Programme evaluation is not a re-authorization of the school. It allows the regional office to work closely with the school in its ongoing development of the programmes; it is also an opportunity for the IB to ensure on a regular basis that the standards and practices of the programmes are being maintained.

The three IB programmes are not static systems. They are essentially evolutionary, requiring adjustment and development in the light of experience. The IB supports schools in all stages of development of the PYP, the MYP and the DP by providing documentation, information seminars and professional development events. For the PYP and the MYP, there are organized visits by IB staff and/or nominated, experienced practitioners.

Programme evaluation does not seek to appraise or assess individual teachers or students. It will be successful in achieving its aims only if a multiplicity of stakeholders is included: teachers, programme coordinators, administrators, students, parents, board members.

Programme evaluation occurs between three and five years after official authorization to offer the programme, and every five years thereafter. It involves three important stages.

The self-study (PYP, MYP and DP)

The important process of self-study, guided by a questionnaire, involves the whole school in its own assessment of its delivery of the programmes. The responses to the self-study should be the outcomes of discussions and of reflections on the evidence gathered in the process. For the PYP and the MYP, the self-study precedes and contributes to the programme evaluation visit.

There is no mandatory on-site evaluation visit for the DP, but in addition to the self-study, where necessary, the regional office may seek further information or organize a visit.

The school visit (PYP and MYP)

The programme evaluation visit is mandatory for all IB World Schools that offer the PYP and/or the MYP. It ensures the quality of programmes, while offering feedback to each school. The programme evaluation visit aims to be diagnostic and constructively critical, and is intended to:

- support the school's self-evaluation processes
- inform the school's curriculum development activities
- assist effective management and allocation of resources.

The evaluation report (PYP, MYP and DP)

The regional office will respond formally to the school—upon receipt of the completed self-study questionnaire in the case of the DP, and after the programme evaluation visit for the PYP and the MYP—with commendations, recommendations and, where appropriate, matters to be addressed by the school.

Evaluation of the programme continuum

Schools that offer more than one consecutive IB programme may request a cross-programme evaluation. This would mean all programmes in the school, including the DP, undertaking the process of self-study, completing the *Programme evaluation self-study questionnaire* and receiving a joint evaluation visit simultaneously. Schools may choose to opt for this process as a means of reflecting on whole-school development, and planning for whole-school improvement. Each programme will be as carefully and thoroughly evaluated as it would be under a single programme evaluation and the teams will also address the articulation of the programmes. This process is not available for schools that offer only the PYP and the DP.

For a cross-programme evaluation the guiding principles remain the same as for the single programme evaluations, except that the DP will also receive a visit.

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